

Evolution's Three Performance Metrics

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From an evolutionary perspective, there are three critical performance metrics that apply to agents of all sizes, from bacteria to governments and multinational corporations.

The first metric is effectiveness – the comparison between the results achieved and those that are required to, at minimum, survive selection pressures in the agent's environment. For example, in the natural world, animals die of starvation or fall prey to predators. In the human world, people experience ups and downs in health, relationships, and income, while at higher levels of aggregation, the relative power of cities, nations, and civilizations rises and declines. To be sure, the issue of effectiveness becomes more complicated as the size of the organizational unit increases. For example, once goal setting becomes a conscious process (and effectiveness is measured in terms of results achieved versus the goals that have been set), there is always the question (even if it is seldom asked) of how closely an individual or organization's goals match the actual selection criteria in its environment. That this is not a trivial question is suggested by the fact that only 33% of businesses in the United States still exist as independent entities ten years after they are started. However, setting appropriate goals is the province of leadership and strategy, rather than performance measurement.

The second performance metric is efficiency – the amount of scarce resources an agent consumes relative to the results it achieves. In evolutionary terms, inefficient use of resources is perhaps the most fundamental of all selection criteria.

The third performance metric is adaptability – the extent to which effectiveness and efficiency change in response to changes in the agent's environment over time. How often have you heard “inability to change” used as an explanation for why a relationship, career, company, or even civilization declined?

Last but not least, it is important to keep in mind that there are inescapable tradeoffs between these three performance metrics. For example, adaptability usually requires some degree of resiliency (the ability to absorb surprising changes without great disruption or failure) – e.g., the troops a general holds in reserve to deal with the unexpected surprises that occur in every battle and war. However, efficiency sees resources that are not currently used to pursue results as waste, and seeks to eliminate them. For this reason, many organizations that are admired for their supreme efficiency later prove to be unable to adapt, and quickly fail when their environment significantly changes. There is no optimal way to make tradeoffs between the goals you set for effectiveness, efficiency, and adaptability. This and many other aspects of leadership will always remain an art. That said, in my experience the best leaders have been the ones who recognized the inescapable limitations of forecasting and planning in a complex world, and who consequently sought to maximize the resiliency and adaptability of their organizations, subject to achieving the levels of effectiveness and efficiency needed to survive in the short term.